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UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte KAZUNORI KISHIMOTO

Appeal 2009-007630
Application 10/083,447
Technology Center 2100

Before LANCE LEONARD BARRY, HOWARD B. BLANKENSHIP, and
JEAN R. HOMERE, *Administrative Patent Judges*.

BARRY, *Administrative Patent Judge*.

DECISION ON APPEAL

STATEMENT OF THE CASE

The Patent Examiner rejected claims 1-18. The Appellant appeals
therefrom under 35 U.S.C. § 134(a). We have jurisdiction under 35 U.S.C.
§ 6(b).

INVENTION AND ILLUSTRATIVE CLAIM

The Appellant's invention at issue on appeal "automatically generat[es] patterns that also includes patterns for a path, of which crosstalk influences to a measurement path, so as to make it possible to measure the effect of the path that has a crosstalk to the measurement path, in a delay test in a semiconductor integrated circuit device." (Spec. ¶ 25.) The following claim more specifically describes the invention on appeal

1. A method for testing a semiconductor integrated circuit, wherein, when a signal for measuring a delay is applied to a measurement path on which a delay test is conducted, a signal having a transition being in phase or in opposite phase with said signal for measuring a delay applied to said measurement path is applied to a path that influences crosstalk to said measurement path, thereby measuring a propagation delay time of said signal that propagates through said measurement path under the influence of crosstalk, said propagation delay time of said signal being determined by comparing a value of a flip-flop receiving said signal outputted from an output end of said measurement path with an expected value.

REJECTIONS

Claims 14-16 stand rejected under 35 USC §101 as being directed to non-statutory subject matter.

Claims 1-4, 6-11, and 13-15 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over the Appellant's admitted prior art ("AAPA"¹) and

¹ The Appellant refers to the AAPA as "allegedly admitted prior art" and "AAAPA" but show no evidence that the subject matter at issue is not an admission. "Silence implies assent." *Harper & Row Publishers, Inc. v.*

IEEE publication, "Test Generation for Crosstalk-Induced Delay in Integrated Circuits" 1999 ("Chen").

Claims 5, 12, and 16-18 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over AAPA; Chen; and U.S. Patent No. 5,235,566 ("Merrill").

DISCUSSION

Based on the Appellant's arguments, we will decide the appeal of claims 14-16 under § 101 on the basis of claim 14 and the appeal of claims 1-4, 6-11, and 13-15 under § 103(a) on the basis of claim 1. *See* 37 C.F.R. § 41.37(c)(1)(vii). Based on the dependencies of the claims, we will decide the appeal of claims 5, 12, and 16-18 under § 103(a) on the basis of claims 5, 12, and 16. We address these appeals *seriatim*.

REJECTION OF CLAIMS 14-16 UNDER § 101

The **issue** before us follows. Did the Examiner err in concluding that representative claim 14's "computer program product" encompasses non-statutory subject matter?

"Abstract software code is an idea without physical embodiment," i.e., an abstraction. *Microsoft Corp. v. AT&T Corp.*, 550 U.S. 437, 449 (2007). A claim that recites no more than software, logic or a data structure (i.e., an abstract idea) – with no structural tie or functional interrelationship to an article of manufacture, machine, process or composition of matter does not

Nation Enters., 471 U.S. 539, 572 (1985). Therefore, we agree with the Examiner's **conclusion** that the subject matter constitutes admitted prior art.

fall within any statutory category and is not patentable subject matter. *See In re Warmerdam*, 33 F.3d 1354, 1361 (Fed. Cir. 1994).

[C]omputer programs claimed as computer listings *per se*, i.e., the descriptions or expressions of the programs, are not physical "things." They are neither computer components nor statutory processes, as they are not "acts" being performed. Such claimed computer programs do not define any structural and functional interrelationships between the computer program and other claimed elements of a computer which permit the computer program's functionality to be realized.

MPEP § 2106.01(I) (8th ed., rev. July 2010).

Here, claim 14 recites in pertinent part the following limitations: "[a] computer program product for causing a computer to execute processes for generating patterns for testing a semiconductor circuit having a scan path circuit, the program product comprising the processes of"

The Appellant argues that the claimed "computer program **product** . . . is a thing." (Reply Br. 5.) The Appellant, however, does not allege, let alone show, that the computer program product is embodied in a physical medium.

To the contrary, we agree with the Examiner's conclusion that "[t]he limitations of [the] claim read [on] a list of activities *per se* being executed by a program, but the program as such is not embodied in a physical medium and therefore is not a physical 'thing'." (Ans. 9.) Therefore, we **conclude** that the Examiner did not err in concluding that representative claim 14's "computer program product" encompasses non-statutory subject matter.

REJECTION OF CLAIMS 1-4, 6-11, and 13-15 UNDER § 103(a)

The **issues** before us follow.

Did the Examiner err in combining teachings of Chen with those of AAPA to reject representative claim 1?

Did the Examiner err in finding that the combined teachings of AAPA and Chen would have suggested comparing a value of a flip-flop receiving said signal outputted from an output end of said measurement path with an expected value, as required by representative claim 1?

We address these issues *seriatim*.

Regarding the first issue, the presence or absence of a reason "to combine references in an obviousness determination is a pure question of fact." *In re Gartside*, 203 F.3d 1305, 1316 (Fed. Cir. 2000) (citation omitted).

Here, we agree with the Examiner's following findings and conclusion.

The motivation [to combine teachings of Chen and AAPA] is explicitly found in the reference Chen in page 191, column 2, where Chen states that severe design and test problems caused by crosstalk result in delays in product development and huge expenses. The advantage stated by Chen therein is a method to test for crosstalk that is a cost-effective alternative to expensive re-design of a chip during product development. The method, applied to standard circuit delay measurement methods, provides the manufacturer with a system that detects crosstalk (Chen page 193 section III). One with ordinary skill in the art at the time of the invention, motivated as suggested, would have found it obvious to employ the crosstalk test method of Chen to the AAPA in order to speed product to the customer at lower cost.

(Ans. 10.) We also agree with the Appellant's recognition of other "motivations provided in the Chen reference for testing for cross-talk including avoiding signal noise and skew, and avoiding an expensive redesign process" (Reply Br. 3) and that "all testing arguably results in cost savings . . ." (Appeal Br. 9.)

The Appellant argues that "none of these purported motivations provide any reason for someone having knowledge of the Chen reference . . . to modify the []AAPA to arrive at a new testing regimen." (Reply Br. 3.) We are persuaded, however, that Chen's identification of known problems that crosstalk causes and of known solutions thereto, as well as its own solution thereto, along with the advantages recognized by the Appellant, would have provided sufficient reason to combine Chen's solution with the teachings of AAPA.

The Appellant's Reply Brief (p. 6) also introduces the new argument that "[t]he []AAPA clearly teaches away from any modification of the method described therein."

"[I]t is inappropriate for appellants to discuss in their reply brief matters not raised in . . . the principal brief[]. Reply briefs are to be used to reply to matter[s] raised in the brief of the appellee." *Kaufman Co. v. Lantech, Inc.*, 807 F.2d 970, 973 n* (Fed. Cir. 1986). "Considering an argument advanced for the first time in a reply brief . . . is not only unfair to an appellee but also entails the risk of an improvident or ill-advised opinion on the legal issues tendered." *McBride v. Merrell Dow & Pharms., Inc.*, 800 F.2d 1208, 1211 (D.C. Cir. 1986) (internal citations omitted).

There are cogent reasons for not permitting an appellant to raise issues or arguments in a reply brief. Among them are the unfairness to the appellee who does not have an opportunity to

respond and the added burden on the court that a contrary practice would entail. As the Tenth Circuit put it, permitting an appellant to raise new arguments in a reply brief "would be unfair to the court itself, which without the benefit of a response from appellee to an appellant's late-blooming argument, would run the risk 'of an improvident or ill-advised opinion, given [the court's] dependence . . . on the adversarial process for sharpening the issues for decision.'" *Headrick [v. Rockwell Int'l Corp.]*, 24 F.3d [1272,] 1278 [(10th Cir. 1994)], (quoting *Herbert v. Nat'l Acad. of Scis.*, 974 F.2d 192, 196 (D.C. Cir. 1992)).

Carbino v. West, 168 F.3d 32, 34-35 (Fed. Cir. 1999). "Any bases for asserting error, whether factual or legal, that are not raised in the principal brief are waived." *Ex parte Borden*, 93 USPQ2d 1473, 1474 (BPAI 2010) (informative); *see also Optivus Tech., Inc. v. Ion Beam Appl'nns. S.A.*, 469 F.3d 978, 989 (Fed. Cir. 2006) ("[A]n issue not raised by an appellant in its opening brief . . . is waived.") (citations and quotation marks omitted).

Here, the Examiner's aforementioned finding that Chen offers a method to test for crosstalk that is a cost-effective alternative to expensive re-design of a chip during product development in the Examiner's Answer is the same as that in the Final Rejection (p. 4). Consequently, we find nothing that would have prompted the new argument in the Reply Brief. The Appellant could have made the argument in the Appeal Brief. The term "Reply Brief" is exactly that, a brief in reply to new rejections or new arguments set forth in an Examiner's Answer. The Appellant may not present arguments in a piecemeal fashion, holding back arguments until an examiner answers the original brief. This basis for asserting error is waived.

Therefore, we **conclude** that the Examiner did not err in combining teachings of Chen with those of AAPA to reject representative claim 1.

Regarding the second issue, the question of obviousness is "based on underlying factual determinations including . . . what th[e] prior art teaches explicitly and inherently . . ." *In re Zurko*, 258 F.3d 1379, 1383 (Fed. Cir. 2001) (citations omitted). "The test for obviousness is what the combined teachings of the references would have suggested to one of ordinary skill in the art." *In re Young*, 927 F.2d 588, 591 (Fed. Cir. 1991) (citing *In re Keller*, 642 F.2d 413, 425 (CCPA 1981)).

Here, the Examiner makes the "specific fact finding", *Ex parte Belinne*, No. 2009-004693, 2009 WL 2477843, at *4 (BPAI Aug. 10, 2009) (informative), that AAPA "compar[es] value of a flip-flop (for example, AAPA flip-flop 108 in FIG.6) receiving the signal outputted from an output end of a measurement path (AAPA FIG.8 107 via measurement path 21,22,23) with an expected value (AAPA . . . paragraph [0020])." (Ans. 5-6.) We find that the following teachings of AAPA support the Examiner's finding: "the output of the flip-flop 107 coincides with the expected value" (Spec. 11.); "the output of the flip-flop 107 does not coincide with the expected value of '0'" (*id.* at 11); and "the output of the flip-flop 107 does not coincide with the expected value . . ." (*Id.* at 11-12.)

Just as "[i]t is not the function of [the U.S. Court of Appeals for the Federal Circuit] to examine the claims in greater detail than argued by an appellant, looking for nonobvious distinctions over the prior art," *In re Baxter Travenol Labs.*, 952 F.2d 388, 391 (Fed. Cir. 1991), "it is not the function of this Board to examine claims in greater detail than argued by an appellant, looking for nonobvious distinctions over the prior art." *Ex parte Post*, 2006 WL 1665399 at *4 (BPAI 2006).

Here, the Appellant does not address the Examiner's aforementioned finding. Instead, the Appellant merely alleges that "[t]he Examiner's combination of the references merely inserts 'cross-talk', as supplied from the Chen reference, into the []AAP A." (Reply Br. 4.) These allegations "do not . . . explain why the Examiner's explicit fact finding is in error." *Belinne*, at *4. Therefore, we **conclude** that the Examiner did not err in finding that the combined teachings of AAPA and Chen would have suggested comparing a value of a flip-flop receiving said signal outputted from an output end of said measurement path with an expected value, as required by representative claim 1.

REJECTION OF CLAIMS 5, 12, AND 16-18 UNDER § 103(a)

The **issue** before us follows. Did the Examiner err in combining teachings of Merrill with those of AAPA and Chen to reject claims 5, 12, and 16?

The Appellant argues "that there is no motivation provided in the Merrill Patent to combine its teaching with the []AAP A and/or the Chen reference." (App. Br. 11.)

"The Patent Office has the initial duty of supplying the factual basis for its rejection. It may not . . . resort to speculation, unfounded assumptions or hindsight reconstruction to supply deficiencies in its factual basis." *In re Warner*, 379 F.2d 1011, 1017 (CCPA 1967). More specifically, "rejections on obviousness grounds cannot be sustained by mere conclusory statements; instead, there must be some articulated reasoning with some rational underpinning to support the legal conclusion of obviousness." *In re Kahn*, 441 F.3d 977, 988 (Fed. Cir. 2006) (citing *In re Lee*, 277 F.3d 1338, 1343-

46 (Fed. Cir. 2002); *In re Rouffet*, 149 F.3d 1350, 1355-59 (Fed. Cir. 1998)). "To facilitate review, this analysis should be made explicit." *KSR Int'l v. Teleflex Inc.*, 550 U.S. 398, 401 (2007).

Here, the Examiner's Answer does not address the Appellant's aforementioned argument. Nor does it articulate any reason for combining teachings of Merrill with those of AAPA and Chen. We will not resort to speculation, unfounded assumptions, or hindsight reconstruction to supply deficiencies in the Examiner's Answer. Therefore, we **conclude** that the Examiner erred in combining teachings of Merrill with those of AAPA and Chen to reject claims 5, 12, and 16.

DECISION

We affirm the rejection under §101 of claim 14 and of claims 15 and 16, which fall therewith, and the rejection under §103(a) of claim 1 and of claims 2-4, 6-11, and 13-15, which fall therewith.

We reverse the rejection under §103(a) of claims 5, 12, and 16 and of claims 17 and 18, which depend therefrom.

No time for taking any action connected with this appeal may be extended under 37 C.F.R. § 1.136(a)(1). *See* 37 C.F.R. § 1.136(a)(1)(iv).

AFFIRMED-IN-PART

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